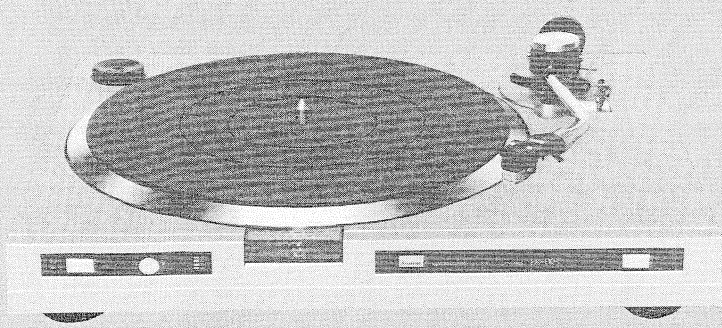
SERVICE MANUAL

AUTOMATIC PLL DC SERVO TURNTABLE

SANSUI FR-D25

(Silver & Black Model)



Sansui

SANSUI ELECTRIC CO., LTD.

SPECIFICATIONS

Type	Two-speed belt-drive
Speeds	33-1/3, 45 rpm
Platter	Aluminum alloy die-cast 315 mm (12-13/32") diameter
Motor	DC servo-type (PLL-SERVO)
Wow and flutter	0.03 % (W.R.M.S.)
S/N	Better than 50 dB (IEC-B)
Rumble	Better than 65 dB (DIN-B)
Tonearm	
Tonearm length	220 mm (8-11/16")
Overhang	17.5 mm (3/4")
Applicable cartridge weight	4 to 9 g
Dimensions	440 mm (17-5/16") W 119 mm (4-11/16") H 370 mm (14-9/16") D
Weight	4.3 kg (9.5 lbs.) net 5.3 kg (11.7 lbs.) packed
Power consumption	7 W

- The power voltage is adjusted to the one of the area where you bought the unit.

Specifications of the cartridge (applicable only to the units with cartridge)

Model SC-37

Type	Induced magnet
Frequency response	20 ~ 20,000 Hz
Output voltage	3.5 mV per channel (1,000 Hz, 50 mm/sec)
Load impedance	47kΩ
Tracking force	2.5 g
Stylus	0.5 mil, diamond spherical (SN-37)

Model SV-101

Type	Dual magnet
Frequency response	10 ~ 20,000 Hz
Output voltage	2.5 mV per channel (1,000 Hz, 35.4 mm/sec)
Load impedance	47 kΩ
Tracking force	2 g
Stylus	0.6 mil, diamond spherical (SN-101)

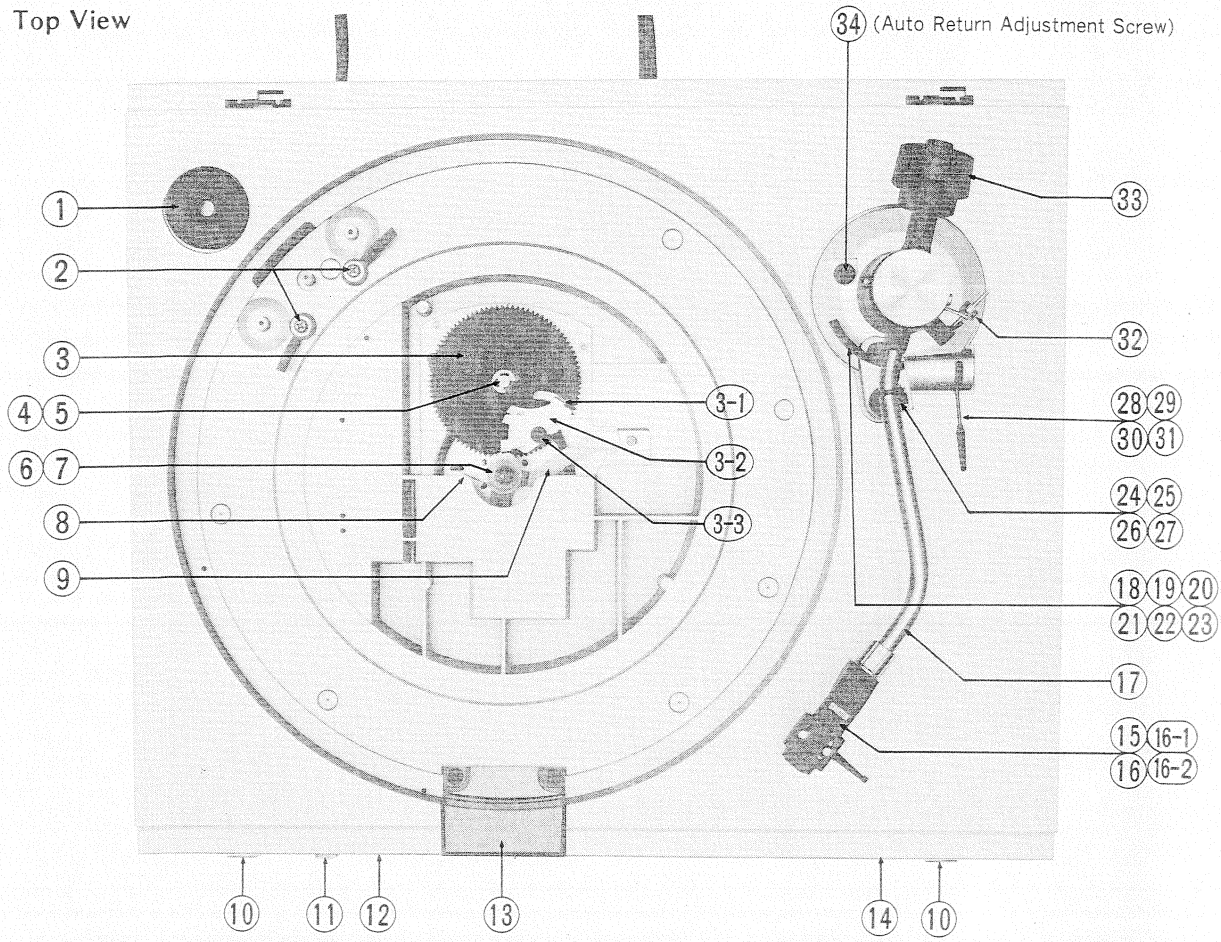
*** Design and specifications subject to change without notice for improvements.**

*** In order to simplify the explanation, illustrations may sometime differ from the originals.**

R-D25

1. PARTS LOCATION & PARTS LIST

1-1. Top View

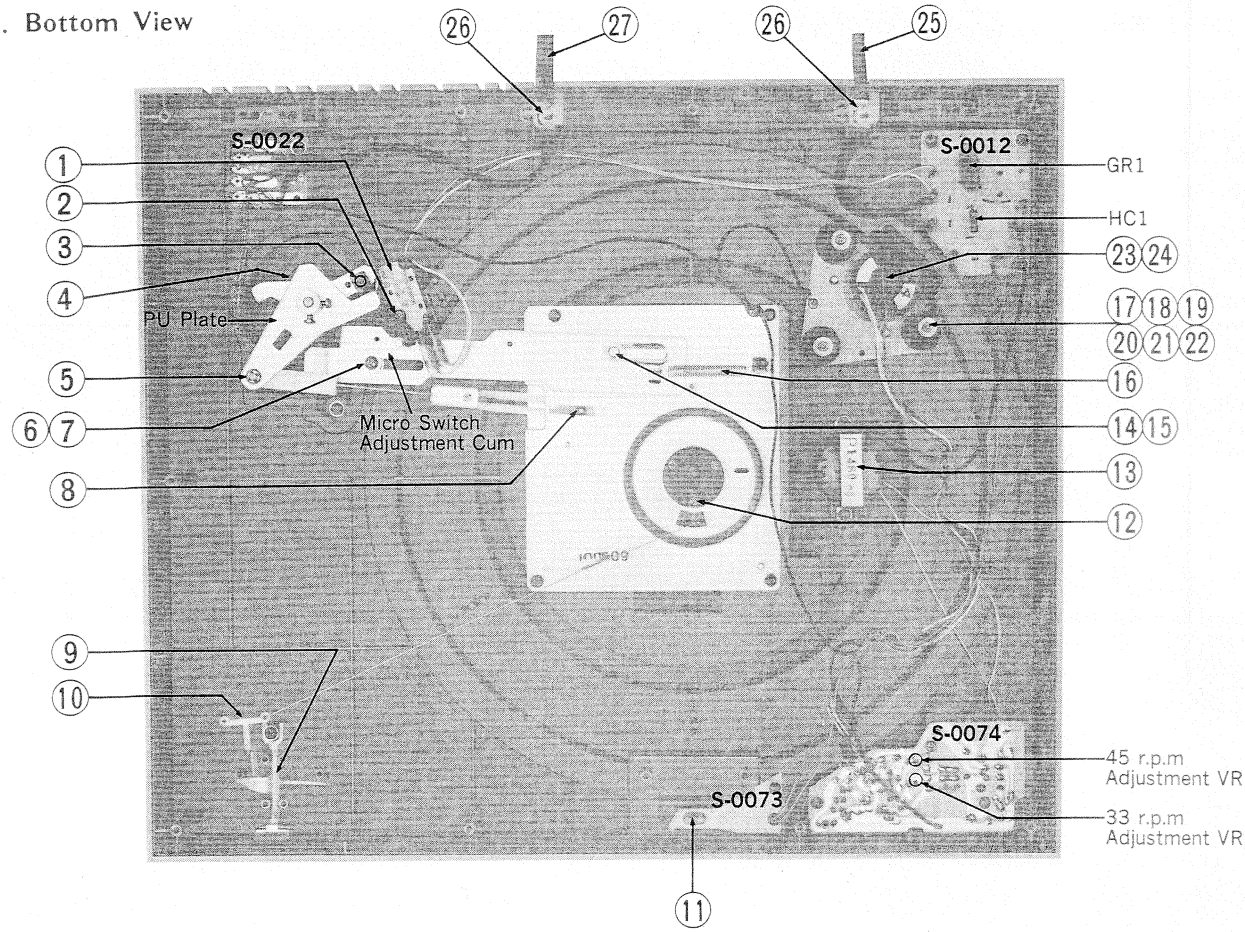


Parts List

Parts No.	Stock No.	Description
1	13012300	45 r.p.m. Adaptor (A)
2	00449600	PSB Type Screw M4 x 10
3	13017200	Main Gear Ass'y
3-1	————	Lower Trip
3-2	————	Upper Trip
3-3	51822900	CS Type Washer 3φ
4	————	Polyslider Washer 6φ x 9.4 x 1.0
5	00489400	E Ring 5φ
6	13051700	Center Spindle
7	13017500	S Clip
8	13017400	Torsion Spring
9	13025100	Reject Arm
13	13037700	Strobo Cover
15	13043100	Head Shell Ass'y
16	43102200	Cartridge Ass'y, SC-37 (Cartridge, Stylus, Screw) (XX, EU, AS, BS)
	13010800	Cartridge Ass'y, SV-101 (Cartridge, Stylus, Screw) (UL)
16-1	49401100	Stylus, SN-37 (XX, EU, AS, BS)
	13010900	Stylus, SN-101 (UL)
16-2	51921500	Screw Ass'y, SC-37 (XX, EU, AS, BS)
	51921500	Screw Ass'y, SV-101 (UL)
17	13069500	Tone Arm Ass'y
18	13038900	Lifter Plate
19	13035600	Spring, 5.3φ x 10 mm (C)
20	13035700	Spring, 9.3φ x 14 mm (E)
21	00466500	P Type Washer 3φ x 10
22	13011600	Elevation Chip
23	13038000	B Type Tapping Screw M3 x 16 (Type 2) Yellow

Parts No,	Stock No.	Description
24	13005300	Arm Rest
25	13013100	Fook, arm rest
26	13013200	Flat Fillister Screw M1.3 x 8
27	00454500	B Type Tapping Screw M3 x 6
28	13013500	Lifter Knob
29	13039100	Lifter Lever Ass'y
30	13039200	Lifter Lever Plate
31	00457600	WT Type Tapping Screw M3 x 10
32	13043200	I.F.C. Ass'y
33	13069600	Main Weight Ass'y
34	50624800	Cup
	70122210	Dust Cover Ass'y
	13044600	Hinge, dust cover
	13036600	Turntable Sheet, platter
	13036700	Turntable Sheet, platter (UL)
	13036100	Platter
	13037400	Belt
Silver Model Only.		
10	13037000	Knob, speed selector & stop switch
11	13037100	Knob, 33/45 r.p.m. pitch control VR
12	13035000	Plate (L)
14	13034900	Plate (R)
Black Model Only.		
10	13039700	Knob, speed selector & stop switch
11	13037200	Knob, 33/45 r.p.m. pitch control VR
12	13035200	Plate (L)
14	13035100	Plate (R)

1-2. Bottom View



Parts List

Parts No,	Stock No.	Description
1	11602500	Micro Switch
2	13038100	Screw, micro switch
3	13038000	Pan Head Tapping Screw M3 x 16 Type 2
4	69034400	Spring, PU plate
5	51822900	CS Type Washer, 3φ
6	13038200	Screw, slide arm
7	00467100	P Type Washer 5φ x 10 x 1.0
8	13051900	Steel Ball 5φ
9	13038400	S.C. Lever (1)
10	13038300	S.C. Lever (2)
11	07264800	Neon Lamp
12	00454500	P Type Tapping Screw M3 x 8
13	15002301	Power Transformer (XX)
	15002302	Power Transformer (UL, CSA)
	15002305	Power Transformer (EU, BS, AS)
14	00489300	E Ring 4φ
15	00467100	P Type Washer 5φ x 10 x 1.0
16	69034300	Spring, slide arm
17	13005100	Screw, rubber cushion
18	00466700	P Type Washer 4φ x 9 x 0.8
19	13008100	Rubber Cushion
20	00469800	Spring Washer 4φ

Parts No.	Stock No.	Description
21	————	Spacer
22	51831800	CS Type Washer 2.4φ
23	13050800	Motor
24	13064800	Pan Head Screw M2.5 x 4
25	38004700	Power Cord (XX, UL, CSA)
	38004500	Power Cord (EU)
	38004300	Power Cord (BS)
	07204200	Power Cord (AS)
26	07254700	Strain Relief, power cord
27	13062500	P.U. Output Cord (XX, CSA, EU, BS, AS)
	38103710	P.U. Output Cord (UL)
	13039300	Clip, insulator
	13009310	Insulator
GR1	00179900	12kΩ 1W N.I.R. (XX, UL, CSA)
	00182400	33kΩ 1W N.I.R. (EU, BS, AS)
HC1	00386000	0.01μF 150V C.C. (XX)
	08302600	10000pF 400V C.C. (EU, BS)
	08302200	10000pF 125V C.C. (UL, CSA)
	07204700	Voltage Selector Switch (EU, BS, AS)

●Note 1:

As to U.S., C.S.A., B.S., ES, A.S. and xx marked in the Parts Lists, note the followings:

U.S., C.S.A. . . Parts used in the unit which is applicable to the U.S. and Canada under industrial standards.

B.S. . . . . Parts used in the unit which is applicable to British under industrial standards.

E.U. . . . . Parts used in the unit which is applicable to Sweden, Denmark, Norway, Finland, West Germany, and Switzerland under industrial standards.

A.S. . . . . Parts used in the unit which is applicable to Australia under industrial standards.

XX . . . . . Parts used in the unit which is applicable to other countries excepting mentioned above.

* In this parts list, those parts with no above mark in the place of Description are all the same as XX marked parts.

●Note 2:

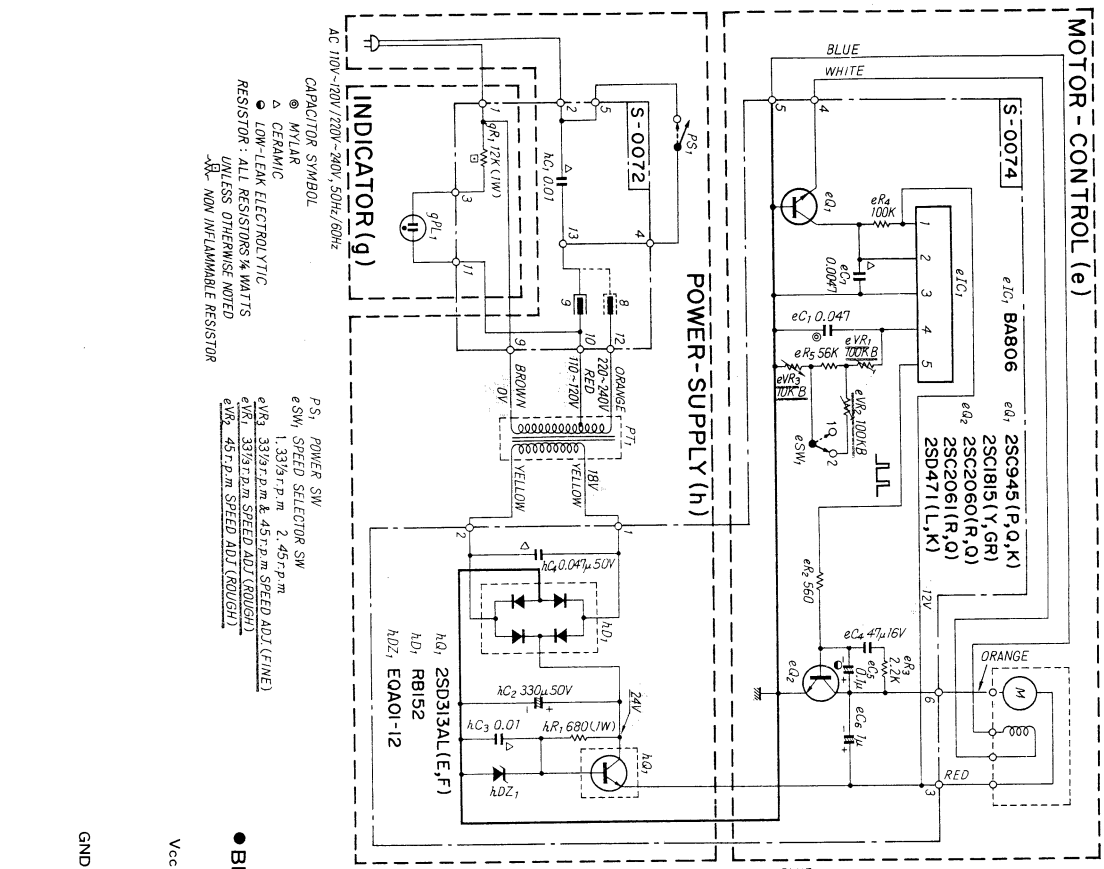
Please note that this unit, FR-D25, includes a cartridge or not depending on the cabinet color and the unit sold in specific area shown in the above description.

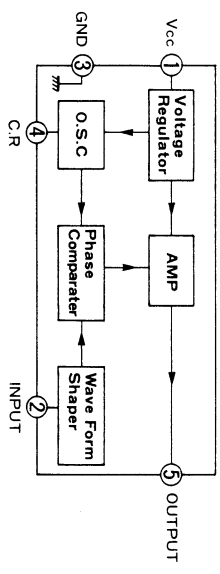
Model	Cabinet Color	Cartridge	Indication of Carton Case
XX, UL, EU, BS, AS	Silver	With Cartridge (SV-101 for UL) (SC-37 for XX, EU, BS, AS)	
XX, UL, EU, BS, AS	Black	With Cartridge (SV-101 for UL) (SC-37 for XX, EU, BS, AS)	Black
XX, UL, CSA, EU, BS	Silver	Without Cartridge	Ⓔ
XX, UL, CSA, EU, BS	Black	Without Cartridge	Black, Ⓔ

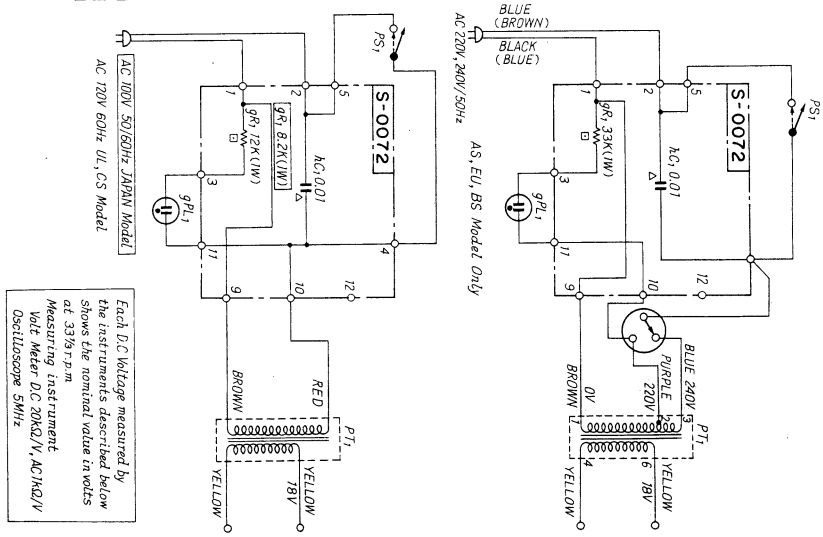
(Cartridge, Stylus, Stylus Cover, and Screw Ass'y are not included in the unit stamped Ⓔ on carton case.)

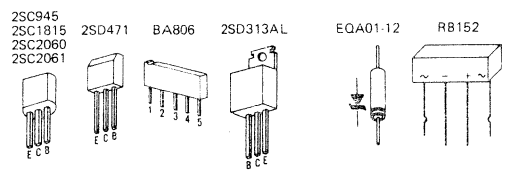
2. SCHEMATIC DIAGRAM

- Design and specifications subject to change without notice for improvement.
- La présentation et les spécifications sont susceptibles d'éter modifiées sans préavis par suites d'améliorations éventuelles.
- Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.





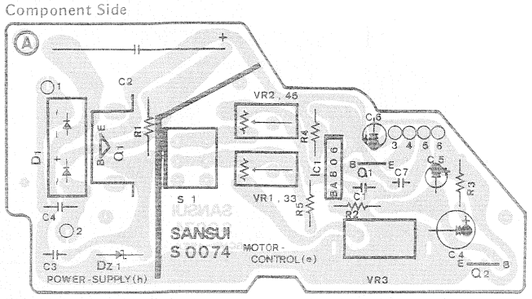

AC 100V 50/60Hz JAPAN Model
AC 120V 60Hz UL, CS Model
AC 220V, 240V/50Hz AS, EU, BS Model Only
BLUE (BROWN)
BLACK (BLUE)
BLUE 240V
PURPLE 220V
BROWN
RED
YELLOW
Each D.C Voltage measured by the instruments described below shows the nominal value in volts at 33⅓r.p.m
Measuring instrument
Volt Meter DC 20kΩ/V, AC1kΩ/V
Oscilloscope 5MHz



3. PARTS LIST OF CIRCUIT BOARD

3-1. S-0074 Motor Control & Power Supply Circuit Board (Stock No. 13060501)

Component Side



●The circuit boards, S-0022, S-0072, S-0073 are not supplied as the assembled, the individual parts on the circuit boards, however are provided for orders.

Parts List

Parts No.	Stock No.	Description
●Transistor		
eQ1	03059501 ~ 3	2SC945 Q, P, K
eQ2	03069101, 2	2SC2060 Q, P
●IC		
eIC1	07255400	BA806
eVR1	10371000	100kΩ (B) Volume, 33 1/3 r.p.m. speed adj.
eVR2	10371000	100kΩ (B) Volume, 45 r.p.m. speed adj.
eVR3	07247100	10kΩ (B) 33-1/3 & 45 r.p.m. speed adj.
eSW1	11319500, 1	Push Switch, speed selector SW
●Transistor		
hQ1	03083902, 3	2SD313AL E, F
●Diode		
hD1	03117000	RB-152
●Zener Diode		
hDZ1	03159500	EQA01~12
hR1	00184400	680Ω 1W N.I.R.
hR2	00283100	330μF 50V E.B.L.

●Abbreviations

C.R.	Carbon Resistor	E.L.	Low Leak Electrolytic Capacitor
S.R.	Solid Resistor	E.B.	Bi-Polar Electrolytic Capacitor
Ce.R.	Cement Resistor	E.BL.	Low Leak Bi-Polar Electrolytic Capacitor
M.R.	Metal Film Resistor	Ta.C.	Tantalum Capacitor
F.R.	Fusing Resistor	F.C.	Film Capacitor
N.I.R.	Non-Inflammable Resistor	M.P.	Metalized Paper Capacitor
C.C.	Ceramic Capacitor	P.C.	Polystyrene Capacitor
C.T.	Ceramic Capacitor, Temperature Compensation	G.C.	Gimmic Capacitor
E.C.	Electrolytic Capacitor		

4. ADJUSTMENTS

4-1. Adjustment of the Auto Return

1) The adjusting screw in top view is one to adjust the position of Auto Return when stylus reaches lead-out groove.
2) Make adjustment of the screw in such a way that stylus lifts up automatically around the middle way of lead-out groove. Namely turn the adjusting screw clockwise is for leading and counterclockwise is for lagging.
3) After adjusting the screw properly, check its operation a few times.

4-2. Adjustment of the Clearance between PU plate and Micro Switch

After replacing the micro switch, adjust the clearance between PU plate and micro switch (See Fig. 4-1) to be approximately 0.3 mm at the tonearm on the arm rest by the clearance adjusting cam.

4-3. Adjustment of cartridge mounting position

Adjust the cartridge mounting position as shown in Fig. 4-2.

Fig. 4-1

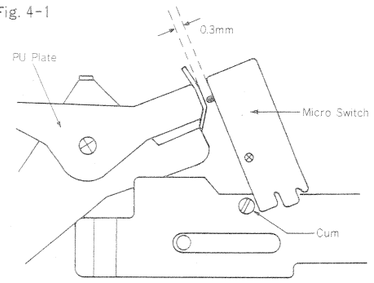
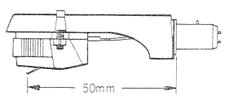
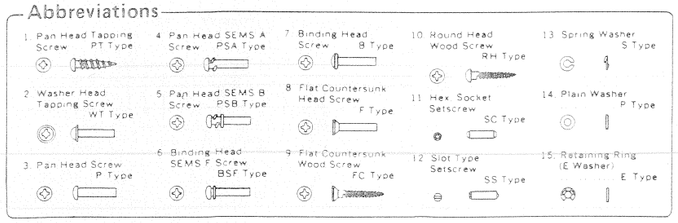


Fig. 4-2

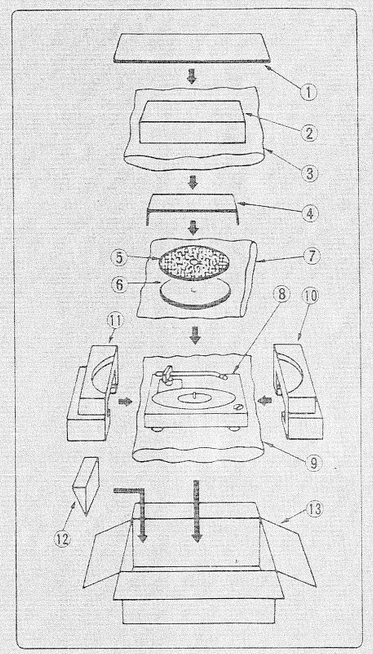


Abbreviations


1. Pan Head Tapping Screw PT Type
2. Washer Head Tapping Screw WT Type
3. Pan Head Screw P Type
4. Pan Head SEMS A Screw PSA Type
5. Pan Head SEMS B Screw PSB Type
6. Binding Head SEMS F Screw BSF Type
7. Binding Head Screw B Type
8. Flat Countersunk Head Screw F Type
9. Flat Countersunk Wood Screw FC Type
10. Round Head Wood Screw RH Type
11. Hex Socket Setscrew SC Type
12. Slot Type Setscrew SS Type
13. Spring Washer S Type
14. Plain Washer P Type
15. Retaining Ring (E Washer) E Type

5. PACKING LIST

Parts No.	Stock No.	Description
1	13040300	Protector Board, upper
2	70122210	Dust Cover
3	91122500	Polyethylene Bag for Dust Cover
4	13035800	Protector Board, platter
5	13036600	Turntable Sheet, platter
6	13036100	Platter
	13037400	Belt
7	91166000	Polyethylene Bag for Platter
8	————	Turntable Unit
9	91122710	Polyethylene Bag for Turntable Unit
10	13035400	Styrofoam Packing, front
11	13035500	Styrofoam Packing, rear
12	13040200	Accessory Box
13	13036000	Carton Case (Silver Model Only)
	13052100	Carton Case (Black Model Only)



6. ACCESSORY PARTS LIST

Stock No.	Description
13043100	Head Shell Ass'y
43102200	Cartridge Ass'y, SC-37 (XX, EU, BS, AS)
13010800	Cartridge Ass'y SV-101 (UL)
49401100	Stylus, SN-37 (XX, EU, BS, AS)
13010900	Stylus, SN-101 (UL)
13069600	Main Weight
13012300	EP Adaptor
13044600	Hinge, dust cover
07643100	Operating Instructions

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